

CLAIMS

What is claimed is:

1. A method for in-line or end-of line repair of an original basecoat/topcoat finish on an automobile or truck during their original manufacture, in which the original topcoat comprises a substantially cured fluorinated silane polymer, wherein the improvement comprises:
 - (a) incorporating in the original topcoat, an adhesion improving additive comprising a fluorinated urethane compound;
 - (b) applying over said original topcoat, a repair basecoat composition comprising an aminoplast resin crosslinking agent;
 - (c) applying over said repair basecoat, a repair topcoat composition; and
 - (d) curing the new basecoat/topcoat finish.
2. The method of claim 1, wherein the repair topcoat is applied over said repair basecoat wet-on-wet and the new top coat and basecoat are cured together.
3. The method of claim 1, wherein the coating compositions for both the original basecoat/topcoat and repair basecoat/topcoat are the same, so that only one topcoat and one basecoat composition are used.
4. The method of claim 1, wherein the fluorinated urethane compound consists essentially of an adduct of an organic polyisocyanate, a polyoxyethylene/polyoxypropylene glycol, and a fluorinated monofunctional alcohol, and contains substantially no residual isocyanate groups.
5. The method of claim 1, wherein the fluorinated urethane compound consists essentially of an adduct of an organic polyisocyanate, an amino-functional silane, and a fluorinated monofunctional alcohol, and contains substantially no residual isocyanate groups.
6. The method of claim 1, wherein the fluorinated urethane compound is employed in the original topcoat composition in an amount of about 0.1-10% by weight, based on the weight of the binder of the original topcoat.

7. A method for improving the adhesion of a repair coating to a coated substrate, which comprises:

(a) applying to a substrate at least one coating composition comprising a film-forming binder comprising a fluorinated silane polymer and an adhesion improving additive comprising a fluorinated urethane compound;

(b) curing the at least one coating composition to provide a coated substrate;

(c) applying to the coated substrate one or more repair coatings wherein the first repair coating applied to the substrate comprise an aminoplast resin crosslinking agent;

(d) curing the one or more repair coatings to form a new finish over said substrate.

8. A substrate coated according to the method of claim 1.

9. A coating composition containing about 45-90% by weight of film forming binder and 10-55% by weight of an organic liquid carrier; wherein the binder comprises:

(A) about 10 to 90% by weight, based on the weight of the binder, of a film-forming fluorinated organosilane polymer consisting essentially of about 5 to 98% by weight, based on the weight of the polymer, of polymerized ethylenically unsaturated monomers which do not contain a silane or a fluorine functionality, about 1.5 to 70% by weight, based on the weight of the polymer, of ethylenically unsaturated monomers which contain a silane functionality, and about 0.5-25% by weight, based on the weight of the polymer, of polymerized ethylenically unsaturated monomers which contain a fluorine functionality,

(B) about 0 to 60%, based on the weight of the binder, of a non-aqueous dispersed polymer, and

(C) about 10 to 90% by weight, based on the weight of the binder, of an crosslinking agent selected from one or both of an organic polyisocyanate and melamine crosslinking agent; and wherein the composition further comprises:

(D) about 0.1 to 15% by weight, based on the total weight of binder solids in the composition, of a fluorinated urethane compound.

10. The composition of claim 9 wherein the fluorinated urethane compound consists essentially of an adduct of an organic polyisocyanate, a polyoxyethylene/polyoxypropylene glycol, and a fluorinated monofunctional alcohol, and contains substantially no residual isocyanate groups.

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11. The method of claim 9, wherein the fluorinated urethane compound consists essentially of an adduct of an organic polyisocyanate, an amino-functional silane, and a fluorinated monofunctional alcohol, and contains substantially no residual isocyanate groups.

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12. An automobile or truck top coated with the composition of claim 9.